



State of Tennessee Board of Emergency Medical Services  
For EMS Medical Direction  
**APPROVED CLINICAL PRACTICES**

**THIS DOCUMENT AS A RESULT OF REVIEW AND RECOMMENDATION FROM THE CLINICAL ISSUES COMMITTEE CONTAINS INFORMATION FOR CLARIFICATION OF CURRENT CLINICAL PRACTICES AS WELL AS NEW CLINICAL PRACTICES APPROVED FOR EMS PERSONNEL BY THE BOARD OF EMERGENCY MEDICAL SERVICES.**

**ANY PRODUCT THAT HAS FDA APPROVAL FOR PREHOSPITAL USE, LOCAL MEDICAL DIRECTION APPROVAL AND FALLS WITHIN THE SCOPE OF PRACTICE FOR THE PROVIDER DOES NOT REQUIRE EMS BOARD APPROVAL**

The Clinical Issues committee encourages EMS providers to submit their questions, concerns, performance data, and recommendations for improvement to the Clinical Issues Committee.

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**CONTINUOUS POSITIVE AIRWAY PRESSURE  
BILEVEL POSITIVE AIRWAY PRESSURE**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description:**

CPAP (Continuous Positive Airway Pressure)  
BIPAP (Bilevel Positive Airway Pressure)

Positive airway pressure devices are used in treatment of patients in severe respiratory distress from a variety of causes. These devices generate pressure to help force fluid out of the lungs and improve airflow.

**Need:**

CPAP/BIPAP is a non - invasive treatment method which reduces the need for intubation and mechanical ventilation in seriously ill patients.

**Recommended staff/skill level:**

The use of pre-hospital CPAP/BIPAP is recommended at the level of AEMT/EMT-IV and above after documentation of training and education.

**Training/Education Needed:**

Training and Education regarding CPAP/BIPAP may occur at the EMS service level using the manufacturers training program. Individual providers must be credentialed in the use of this device through documentation of training.

**Quality Improvement Parameters:**

EMS services should carefully monitor patient selection for appropriate use of the device, patient outcomes, complications, and for technical problems with the device. EMS services should more diligently monitor the use of this device by AEMT/EMT-IV's until more clinical evidence is available.

**Scope of Recommendation:**

This recommendation applies to the pre-hospital use of Positive Airway Pressure Devices.



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**NON TRACHEAL AIRWAY DEVICES**

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**Procedure/Drug Name w/brief description**

**Non Tracheal Airway Devices**

There are multiple non tracheal blind insertion airway devices (eg. King LT, Combitube, SALT, LMA) which can be utilized as an emergency and/ or backup airway management device. The devices come in various sizes for pediatric to adult patients.

**Need**

Non Tracheal airway devices provide an emergency rescue airway device and are approved for use in adults and pediatrics.

**Recommended staff/skill level**

Non Tracheal airway devices are for use by EMR and above.

**Training/Education Needed**

Training and Education regarding Non tracheal airway devices for EMR and EMT will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of non-tracheal airway devices by EMRs and EMTs, must show documentation of education and competency of the EMR and EMT in the use these devices.

**Quality Improvement Parameters**

EMS services should carefully monitor of use of the non-tracheal airway device by the EMR and EMTs. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to scope of practice.

**Scope of Recommendation**

This recommendation applies to the pre-hospital use of non-tracheal airway devices (including Combitube, King LT, and LMA) by EMR and EMTs in the pre-hospital setting as an emergency and/or backup airway management device in adult and pediatric patients. These devices are included in scope of practice and training for AEMT/EMTIV and above levels.



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**MECHANICAL VENTILATOR TRANSPORT PRACTICE**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Practice w/brief description**

**VENTILATOR TRANSPORTS**

To safely and legally conduct inter-facility transports of ventilator dependent patients an ambulance service MUST fulfill requirements of the Emergency Medical Services Board:

1. Properly qualified Ventilator trained or Critical Care Paramedic or Respiratory Therapist
2. A Transport ventilator
3. Minimum of two hours in-service annually on transport ventilator

Transport ventilators must meet the following minimum features:

1. Variable tidal volume (for example, 100-1500 ml)
2. Variable ventilator rate (2-30 breaths/min)
3. Variable minute ventilation (4-20 Lmin)
4. Intermittent mandatory ventilation (IMV) and controlled mechanical ventilation (CMV)
5. Low and high pressure alarms
6. Continuous positive airway pressure (I-20 cm H2O)
7. Spontaneous patient ventilation (cycling on patient demand).

**Recommended staff/skill level:**

A paramedic who has successfully completed the EMS Board approved inter-facility ventilator transport curriculum or licensed as a Critical Care Paramedic and meets the annual in-service hour requirements

or

A licensed Paramedic and respiratory therapist as the transport team.

**Training/Education Needed:**

Training and Education regarding transport ventilators may occur at the EMS service level using the EMS Board approved curriculum requirements to include approved faculty. Ventilator Training Programs must be approved by the EMS Division prior to first training course. Ventilator Training Approval Course Request, to include a course schedule, must be submitted to the regional consultant prior to course starting to receive a course approval number. Individuals qualified by training to use transport ventilators must receive a minimum of two hours



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training annually on the use of the transport ventilator used by the service. Individual providers must be credentialed in the use of this ventilator through documentation of training maintained at the service and verified by the Medical Director.

**Quality Improvement Parameters:**

EMS services should carefully monitor patient ventilator transports for appropriate use of the transport ventilator, patient outcomes, complications, and for technical problems with the device.

**Scope of Recommendation:**

This recommendation applies to the Paramedics qualified through training in the use of Transport Ventilators.



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## **RAPID SEQUENCE INTUBATION / DRUG ASSISTED INTUBATION (RSI/DAI)**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

### **Procedure/Drug Name w/brief description**

The use of medications in the facilitation of obtaining or maintaining airway control is often required in severely injured patients in the pre-hospital setting. The use of these medications can lead to Neuromuscular blockade rendering the patient unable to breathe on their own, and therefore require significant training and oversight to be done in a safe manner.

### **Need**

Rapid Sequence Intubation / Drug Assisted Intubation may be required in severely ill patients in order to facilitate the management of the airway.

### **Recommended staff/skill level**

The use of RSI / DAI is recommended at the Paramedic skill level and above ONLY and after documentation of Medical Director's approval of protocol, training, education, and continuing proof of competence.

### **Training/Education Needed**

Training and education regarding RSI / DAI must occur at the EMS service level. Individual providers must be credentialed in the use of this procedure with thorough documentation of training. In addition, continuous reevaluation of skills and knowledge is required every six months, as is documentation of competency.

### **Quality Improvement Parameters**

EMS services must carefully monitor to include Medical Director's review of each use of Rapid Sequence Intubation / Drug Assisted Intubation for appropriate setting, patient outcome, complications and technical problems. Each Paramedic re-credentialed every six months.

- This may be done by performing at least one RSI/DAI procedure every six months with no issues found in a quality improvement review and signed off by EMS Service Medical Director.
- or
- Documentation of training and a competency for re-credentialing, review signed by Medical Director if the paramedic has not utilized the technique in the field in the preceding six months.

**Paramedics must have documentation of credentialing signed by Medical Director to perform RSI/DAI for each service in which they perform RSI/DAI.**

### **Scope of Recommendation**

This recommendation applies to the Pre Hospital use of Rapid Sequence Intubation / Drug Assisted Intubation.



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**VIDEO LARYNGOSCOPY**

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**Procedure/Drug Name w/brief description**

**Video Laryngoscopy**

Video laryngoscopy is a device that allows the paramedic to view the airway fully in order to ease intubation.

**Need**

Video laryngoscopy allows the paramedic to view an airway for difficulties in intubation where they would otherwise be unable, and may help eliminate the use of blind airway devices.

**Recommended staff/skill level**

Video Laryngoscopy is for use by Paramedics only.

**Training/Education Needed**

Training and Education regarding Video Laryngoscopy will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of Video laryngoscopy by Paramedics, must show documentation of education and competency of the Paramedics in the use of the video laryngoscopy device.

**Quality Improvement Parameters**

EMS services should carefully monitor of use of the Video Laryngoscopy by the Paramedic. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to Paramedic scope of practice.

**Scope of Recommendation**

This recommendation applies to the pre-hospital use of Video Laryngoscopy by Paramedics in the pre-hospital setting as an emergency aid in intubation of adult and pediatric patients.



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**ADMINISTRATION OF GLUCAGON BY AN EMTIV**

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**Procedure/Drug Name w/brief description:**

Glucagon (by EMT-IV)

Glucagon is used for the treatment of Hypoglycemia in patients in which IV access is not obtainable. The drug is given intramuscularly (IM) or intranasal (IN) as a temporary means of elevating blood sugar.

**Need:**

Expanding the use of this drug to EMT-IVs may decrease delays in patient treatment due to lack of immediate availability of a paramedic.

**Recommended staff/skill level:**

The use of Glucagon is recommended for use at the level of EMT-IV and above.

**Training/Education Needed:**

Training and Education regarding Glucagon may occur at the EMS service level using a manufacturer's training program. Individual providers must be credentialed in the use of this device through documentation of training.

**Quality Improvement Parameters:**

EMS services should carefully monitor use of this drug, patient outcomes, and complications. EMS services should more diligently monitor the use of this drug by EMT-IV's until more clinical evidence is available.

**Scope of Recommendation:**

This recommendation applies to the pre-hospital use of Glucagon by EMT-IV's.





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**ADMINISTRATION OF ZOFRAN (ONDANSETRON)**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description:**

Zofran (Ondansetron)  
Ondansetron is used for control of nausea and vomiting.

**Need:**

Provide an alternative to Promethazine for the pre-hospital control of nausea and vomiting.

**Recommended staff/skill level:**

This medication is recommended for Paramedics only.

**Training/Education Needed:**

Training and Education regarding Ondansetron may be provided at the EMS service level.

**Quality Improvement Parameters:**

EMS services should carefully monitor use of the drug.

**Scope of Recommendation:**

This recommendation applies to the pre-hospital use of Odansetron.



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**AEMT/EMT-IV ATTENDANT FOR PATIENTS RECEIVING IV ANTIBIOTICS**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

**EMT-IV Attendant for Patients Receiving IV Antibiotics**

This procedure will allow AEMT/EMT-IV and above pre-hospital providers to accompany patients with the drug class of IV antibiotics infusing. i.e.: Penicillin, Ampicillin, Nafcillin, etc. Patients should have previous exposure to this medication, not a new administration. In addition these medications should be delivered via IV Pump only.

**Need**

Convalescent patients often have IV antibiotics being administered via infusion when being transferred from one facility to another for admission of medical tests.

**Recommended staff/skill level**

Attendant for Patients Receiving IV Antibiotics is for AEMT/ EMT IV and above.

**Training/Education Needed**

The AEMT/ EMT-IV are trained to recognize anaphylaxis and treat by administering Epi 1/1000. Those guidelines would be reviewed with emphasis on probable side effects of antibiotics. Training should include how to stop the infusion via pump.

**Quality Improvement Parameters**

EMS services should identify all transports of patients receiving IV antibiotics by AEMT/EMT-IV (and above). The EMS Service's Medical Director should review PCR's of those transports. If there are no risks identified, further reviews would be performed per standard QI parameters. If risks are identified, immediate retraining and additional observation should be continued.

**Scope of Recommendation**

This recommendation applies to AEMT/EMT-IV attendants for patients receiving IV antibiotics. This would apply all medications that fall under the class of "IV Antibiotics"



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**IV Antibiotics to include:**

Amikacin	Ceftriaxone	Linezolid
Amphotericin B Lipid Complex	Clindamycin	Meropenem
Ampicillin	Daptomycin	Metronidazole
Ampicillin-Subactam	Doripenem	Micafungin
Azithromycin	Doxycycline	Nafcillin
Aztreonam	Ertapenem	Penicillin G Potassium
Cefazolin	Fluconazole	Piperacilin-Tazobactam
Cefepime	Foscarnet	Rifampin
Cefatoxime	Ganciclovir	Tigecycline
Cefoxitin	Gentamicin	Tobramycin
Ceftazidime	Impinem	Vancomycin
	Levofloxacin	Voriconazole



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**INTRANASAL MEDICATION ADMINISTRATION**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services

**Procedure/Drug Name w/brief description**  
**Intranasal Medication Administration**

Intranasal routes of drug administration provide an alternative to needle based dosing. Use of intranasal dosing is often quicker and safer for both the patient and EMS Personnel. Intranasal routes medications are equally effective to other routes of administration and are no longer cost prohibited.

**Need**

Intranasal Medication can be utilized when IV or IM access is difficult or dangerous. Combative diabetic patients, actively seizing patients, and those with narcotic overdose provide multiple opportunities for injury to the patient or the pre-hospital provider.

**Recommended staff/skill level**

Intranasal Routes of administration for medications are appropriate at the AEMT/EMTIV and Paramedic levels per protocol or standing order.

**Education Needed**

Education regarding intranasal medication administration will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of intranasal medication administration, must show documentation of education and competency of the EMS Personnel authorized by the service protocols in intranasal medication administration.

**Quality Improvement Parameters**

EMS Services should carefully monitor the use of Intranasal Medications for appropriate use, technique, and complications.

**Scope of Recommendation**

This recommendation applies to the pre-hospital use of Intranasal Medications by Paramedics and AEMT/EMT IVs authorized by service protocols.



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## **INTRANASAL USE OF NALOXONE BY AN EMR and EMT**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

### **Procedure/Drug Name w/brief description**

#### **Intranasal Use of Naloxone**

This procedure will allow Emergency Medical Responders (EMR) and Emergency Medical Technician (EMT) to administer intranasal naloxone for the treatment of respiratory compromise in opiate overdose.

#### **Need**

Life threatening respiratory depression can occur with use of opioid medications. Intervention at the earliest possible time is vital if lives are to be saved.

#### **Recommended staff/skill level**

Intranasal Routes of administration of naloxone is appropriate for EMR and EMT.

#### **Training/Education Needed**

Training in recognition of opiate effects, administration of naloxone, expected responses, and additional care needed in life threatening events should be performed at the EMS service level and documented for each responder.

#### **Quality Improvement Parameters**

EMS services should identify all patients receiving naloxone by EMS. The EMS Service's Medical Director should review PCRs of those transports. If there are no risks identified, further reviews would be performed per standard Qi parameters. If risks are identified, immediate retraining and additional observation should be continued.

#### **Scope of Recommendation**

This recommendation applies to EMR and EMT. This procedure is currently in the approved scope of practice for AEMT and Paramedic.



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## **PATIENT CONTROLLED DEVICES**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

### **Procedure/Drug Name w/brief description**

#### **Patient Controlled Devices**

Patient Controlled Devices provide ongoing medication administration to patients. These devices are usually programmable by the prescriber. If it is programmed and functioning as intended, the machine is unlikely to deliver an overdose of medication. These devices may be patient adjustable.

#### **Need**

Patients with PCDs often require transport by EMS.

#### **Recommended staff/skill level**

Transport of Patients with PCDs is approved for EMT, AEMT/EMT-IV, and Paramedics.

#### **Training/Education Needed**

Training and Education regarding PCDs will occur at the EMS service level. EMS should show documentation of education and competency.

#### **Quality Improvement Parameters**

EMS services should carefully monitor the transport of use of patients with PCDs. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to EMT, AEMT/EMT IV, and/or Paramedic scope of practice.

#### **Scope of Recommendation**

This recommendation applies to the pre-hospital transport of patients with Patient Controlled Devices.



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**USE OF D10 IN EVENT OF D50/D25 SHORTAGE**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

Substitution of D10 in the event of D50/D25 shortage

**Need**

Current drug shortages include D50/D25, this will provide an alternative.

**Recommended staff/skill level**

N/A

**Training/Education Needed**

Training and Education regarding substitution of D10 may occur at the EMS service level for those authorized by scope of practice and Medical Direction. Individual providers should possess documentation of training. Suggested protocol update:

*For patients in need of D50 or D25, you may substitute 250 cc D10 value which is the equivalent of 1 amp of D50. It is recommended that you give in approximately 100cc boluses, and assess the patient for resolution of symptoms and recheck blood glucose levels.*

**Quality Improvement Parameters**

EMS services should carefully monitor cases requiring any drug substitution including D10 (250 cc D10 value). Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to the scope of practice.

**Scope of Recommendation**

This recommendation applies to the emergency substitution of D10 in the pre-hospital setting in pediatric and adult patients.



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**ACCESSING INDWELLING SUBCUTANEOUS INTRAVENOUS ACCESS PORTS  
WHEN ALL OTHER ATTEMPTS TO OBTAIN INTRAVENOUS ACCESS HAVE  
FAILED**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

**Accessing Indwelling Subcutaneous Intravenous Access Ports When All Other Attempts to Obtain Intravenous Access Have Failed**

Many patients who have significant problems with intravenous access have received implanted subcutaneous intravenous access ports such as the "Port-A-Cath". The use of specialized needles (Huber) when accessing these devices will provide Paramedics a means of obtaining IV access when all other access attempts have failed.

**Need**

The ability to obtain intravenous access is a vital skill for the Paramedic. Subcutaneous Implanted Intravenous Access Ports may provide the only intravascular access available in certain patients when all other access attempts have failed. Specialized needles such as the Huber needle are required to properly access these ports.

**Recommended staff/skill level**

Accessing Indwelling Subcutaneous Intravenous Access Ports is a skill appropriate for the Paramedic service level only.

**Training/Education Needed**

Training and Education regarding access of subcutaneous access ports will occur at the EMS service level. EMS Agency's Medical Director who has authorized the access of subcutaneous access ports by Paramedics as a last resort for gaining IV access, must show documentation of education and competency of the paramedic in accessing subcutaneous access ports.

**Quality Improvement Parameters**

EMS services should carefully monitor the indications and complications of accessing indwelling subcutaneous intravenous access ports by a Paramedic. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to Paramedic scope of practice.

**Scope of Recommendation**

This recommendation applies to the pre-hospital access of Subcutaneous IV access ports by Paramedics in the pre-hospital setting when all other IV access sites have failed.





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**EZ-IO (INTRA-OSSEOUS ACCESS)**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description:**

**EZ-IO (Intra-osseous Access)**

Intra-osseous Access Devices are used to provide an alternative means of intra-vascular access. The EZ-IO device uses a unique powered driver to insert the needle.

**Need:**

Expand the definition of IO devices to include those with powered drivers.

**Recommended staff/skill level:**

EZ-IO is recommended for AEMT and Paramedics, who are trained with the device.

**Training/Education Needed:**

Training and Education regarding EZ-IO may occur at the EMS service level following the manufacturer's training program. Individual providers should possess documentation of training.

**Quality Improvement Parameters:**

EMS services should carefully monitor use of the device.

**Scope of Recommendation:**

This recommendation applies to the pre-hospital use of the EZ-IO intra-osseous access device.



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**VASCULAR ACCESS PORTABLE ULTRASOUND**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

**Portable Ultrasound**

Portable ultrasound is a device to allow the AEMT/EMT-IV and Paramedic to visualize difficult to locate veins in patients in the pre-hospital setting.

**Need**

Some patient's veins have proven very difficult to locate for IV needs and Portable Ultrasound can help ease that difficult process, limiting the need for IO devices and/or multiple needle sticks.

**Recommended staff/skill level**

Portable Ultrasound is for use by AEMT/EMT-IV, and Paramedics only.

**Training/Education Needed**

Training and Education regarding Portable Ultrasound will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of Portable Ultrasound Devices by AEMT/EMT IV, and/or Paramedics, must show documentation of education and competency of the provider in the use of Portable Ultrasound Devices.

**Quality Improvement Parameters**

EMS services should carefully monitor of use of Portable Ultrasound by the AEMT/EMT IV and/or Paramedic. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to AEMT/EMT IV and/or Paramedic scope of practice.

**Scope of Recommendation**

This recommendation applies to the pre-hospital use of Portable Ultrasound by AEMT/EMT IV and Paramedics in the pre-hospital setting as a way to aid IV insertion without more invasive measures. Portable Ultrasound is NOT to be used as a diagnostic tool in the field.



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**12 Lead EKG performed by EMS Providers**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description:**

12 Lead EKG performed by EMS providers.

12 Lead EKG is used for the evaluation of patients exhibiting symptoms of Acute Coronary Syndrome. EKG lead placement and the procedure for obtaining and/ or transmitting a 12 Lead EKG is appropriate at the EMT or AEMT/EMT-IV Level. **Interpretation of 12 Lead EKG and patient intervention based on the 12 Lead EKG is within the scope of practice for Paramedics only.**

**Need:**

Expanding the use of 12 Lead EKG to the EMT or AEMT/EMT-IV is for the purpose of improving the quality of care provided by the EMS providers and is appropriate only for the acquisition and/or transmission of the EKG. **Any interpretation, intervention, or patient care decisions utilizing 12 Lead EKG is within scope of practice for Paramedics only.**

**Recommended staff/skill level:**

Acquisition and/or transmission of 12 Lead EKG is appropriate for the EMT or AEMT/ EMT-IV. **Any interpretation, intervention, or patient care decisions utilizing 12 Lead EKG is within scope of practice for Paramedics only.**

**Training/Education Needed:**

Training and Education regarding 12 Lead EKGs may occur at the EMS service level. EMS Services shall have appropriate documentation of all individual providers that have received appropriate training for obtaining and transmitting only of 12 Lead EKGs

**Quality Improvement Parameters**

EMS services should carefully monitor the quality of EKGs obtained by EMT or AEMT/EMT-IV's. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to EMT or AEMT/EMT-IV scope of practice. Paramedic obtained 12 Lead EKGs should also be monitored for proper interpretation and documentation and adherence to local treatment protocol.

**Scope of Recommendation:**

This recommendation applies to the pre-hospital use of 12 Lead EKG by an EMT or AEMT/EMT IV in obtaining and/or transmission of 12 Lead EKG. This is currently in the scope of practice for Paramedic and above.



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**HEMORRHAGE CONTROL CLAMP DEVICES**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

**Hemorrhage Control Clamp Devices for Acute Hemorrhage**

Use of the Hemorrhage Control Clamp Devices in the pre-hospital setting is for acute exsanguinating hemorrhage. Application of these devices should follow manufacturers recommendations and be utilized in extremities only.

**Need**

Rapid use of the Hemorrhage Control Clamp Devices appears to reduce morbidity and mortality in acute vascular traumatic injury and is approved for use in adults and pediatrics.

**Recommended staff/skill level**

Hemorrhage Control Clamp Devices is for use by all levels of EMS provider beginning at EMR.

**Training/Education Needed**

Training and Education regarding the Hemorrhage Control Clamp Devices will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of the Hemorrhage Control Clamp Devices by all EMS providers, beginning at EMR, must show documentation of education and competency in the use of the Hemorrhage Control Clamp Devices.

**Quality Improvement Parameters**

EMS services should carefully monitor of use of the Hemorrhage Control Clamp Devices by the all EMS providers. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to the scope of practice.

**Scope of Recommendation**

This recommendation applies to the pre-hospital use of the Hemorrhage Control Clamp Devices by all EMS personnel, beginning with EMR in the pre-hospital setting to control acute hemorrhage in adult and pediatric patients.



State of Tennessee Board of Emergency Medical Services  
For EMS Medical Direction  
**APPROVED CLINICAL PRACTICES**

## **TOURNIQUETS FOR ACUTE HEMORRHAGE**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

### **Procedure/Drug Name w/brief description**

#### **Tourniquets for Acute Hemorrhage**

Use of tourniquets in the pre-hospital setting for the acute exsanguinating hemorrhage is making resurgence due to current military experience. Application of these devices should follow manufacturers recommendations and be utilized in extremities only.

The device comes in various sizes for pediatric to adult patients.

#### **Need**

Rapid use of tourniquets appears to reduce morbidity and mortality in acute vascular traumatic injury and is approved for use in adults and pediatrics.

#### **Recommended staff/skill level**

Tourniquets are for use by EMS providers at all levels.

#### **Training/Education Needed**

Training and Education regarding tourniquets will occur at the EMS service level. EMS Agency's Medical Director, who has authorized the use of must show documentation of education and competency of the EMS providers in the use of tourniquets.

#### **Quality Improvement Parameters**

EMS services should carefully monitor of use of tourniquet by the EMS Provider. Services should also carefully review patient care reports to ensure compliance with local protocol and adherence to EMS provider scope of practice.

#### **Scope of Recommendation**

This recommendation applies to the pre-hospital use of tourniquets by EMS Providers in the pre-hospital setting to control acute hemorrhage in adult and pediatric patients.



State of Tennessee Board of Emergency Medical Services  
For EMS Medical Direction  
**APPROVED CLINICAL PRACTICES**

**TIME CRITICAL ILLNESS SYSTEMS OF CARE**

The following procedure and or patient care issue has been evaluated by the Clinical Issues Committee for practical use in the interest of advancing pre-hospital patient care and approved for Emergency Medical Service personnel by the Board Of Emergency Medical Services.

**Procedure/Drug Name w/brief description**

**Time Critical Illness Systems of Care**

The State EMS Board approves the concept of regionalized systems of care related to time critical illnesses such as trauma, Acute Coronary and Cerebrovascular illness, and pediatrics. The goal of these systems is to expedite patients to the appropriate specialty care as quickly as possible, and may require EMS systems to bypass facilities which cannot provide the proper services.

**Need**

Specialty care for time critical illness is often not available at the geographically closest hospital, and may require EMS systems to alter their destination guidelines to ensure patients are transported to appropriate facilities. A system built on concepts similar to the Trauma care system has been shown to improve patient outcomes for many time sensitive diseases.

**Recommended staff/skill level**

EMS systems, in cooperation with local Healthcare facilities, should implement guidelines for transport to ensure no delays in the care of these patients.

**Training/Education Needed**

N/A

**Quality Improvement Parameters**

EMS services should carefully monitor system outcomes for patients with time critical illnesses to ensure they are being transported without delays to the most appropriate facility to care for the disease process.

**Scope of Recommendation**

This recommendation applies to the all EMS systems.